

MONTANA CLINICAL COMMUNICATION AND SURVEILLANCE REPORT



Montana Department of Public Health and Human Services
Chronic Disease Prevention and Health Promotion Program
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EMERGENCY MEDICAL SERVICES AND TIME SENSITIVE CARDIOVASCULAR DISEASES: CALLING 9-1-1 FOR STROKE AND HEART ATTACK IN MONTANA

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Save the Date!

- WYADE Fall Update,
September 30 - October 1
- Montana Annual Diabetes
Professional Conference,
October 21 - 22

BACKGROUND

Early treatment to restore perfusion is critical to improve survival and outcomes for stroke and heart attack.^{1,2} But several factors can contribute to pre-hospital delays.³ Patients may fail to recognize the symptoms or delay calling 9-1-1, thus delaying Emergency Medical Services (EMS) response. And hospitals must evaluate and treat patients quickly to achieve the best patient response, often within a tight time frame. The American Heart Association/American Stroke Association has identified the need for a tightly coordinated pre-hospital chain of survival steps, starting with persons recognizing the symptoms of stroke or heart attack, calling 9-1-1 and receiving care from trained EMS providers working in coordination with the hospital.⁴ For a suspected stroke, EMS providers can screen patients using a stroke screen and notify the Emergency Department prior to arrival so that the type of stroke can be identified immediately by computed tomography (CT) scan to allow a timely decision for thrombolytic therapy.⁴ For heart attack, it has become important not only to identify, stabilize and transport a possible heart attack victim, but also, when possible, to obtain a 12-lead electrocardiogram (ECG) and transmit it to the receiving hospital.⁵ This allows the Emergency Department to identify the specific type of heart attack, such as ST Elevation Myocardial Infarction, and to mobilize interventional cardiac services promptly. In outlying facilities, early evaluation of 12-lead ECG allows expedited transfer for intervention, or the coordination of thrombolytic therapy and subsequent inter-facility transfer.

Over the past 6 years, the Montana Stroke Initiative and, more recently, the Montana Cardiac Workgroup have worked with the state Cardiovascular Health Program to conduct and evaluate a number of activities to promote awareness of signs and symptoms of stroke and heart attack, and the importance of calling 9-1-1. Many EMS services across the state now utilize standard stroke protocols coordinated with the hospital, and

Figure 1. Percentage of Montana adults (18 years and older) who would call 9-1-1 if they witnessed someone having a heart attack or stroke, overall and by age, gender and race, Montana, 2009.

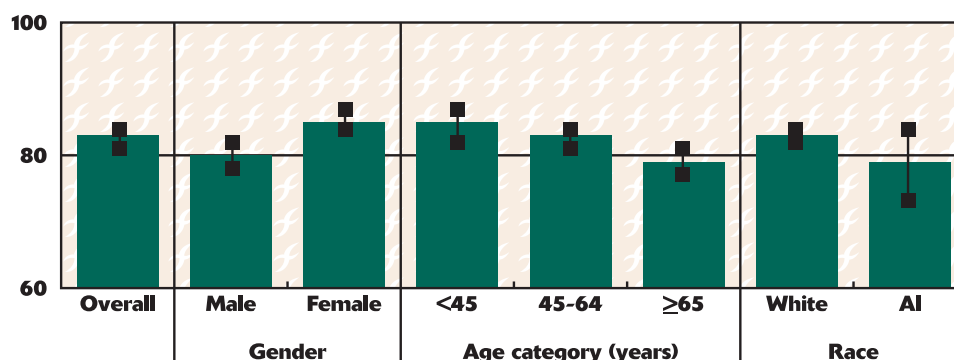
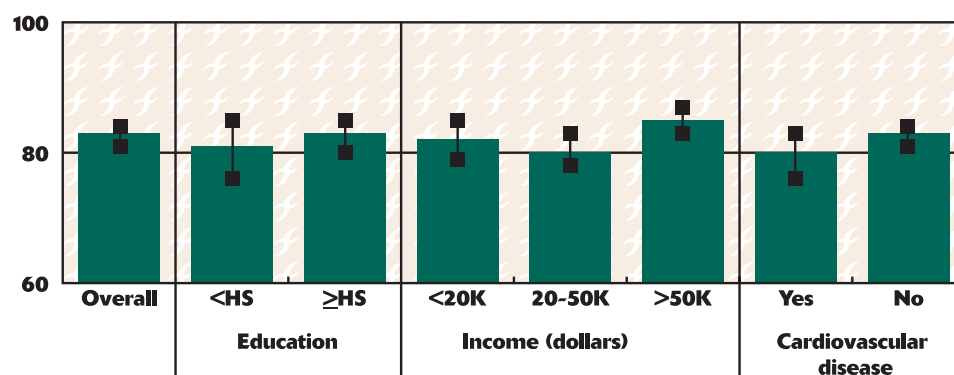


Figure 2. Percentage of Montana adults (18 years and older) who would call 9-1-1 if they witnessed someone having a heart attack or stroke, overall and by education, income and cardiovascular disease, Montana, 2009.



telestroke cameras are located in strategic sites across the state. Similar efforts to diagnose and coordinate care for heart attack patients have begun. This report presents information from the 2009 statewide Behavioral Risk Factor Surveillance System (BRFSS) Survey about what Montana adults report regarding first reaction if someone was having a heart attack or stroke.

METHODS

Data from the 2009 Behavioral Risk Factor Surveillance System (BRFSS) survey were used to estimate the importance of calling 9-1-1 if witnessing a potential heart attack or stroke victim. The statewide BRFSS survey is a random digit dial telephone survey of adults 18 years and older. One randomly selected adult from each sampled household was selected to participate in the survey. Respondents who reported a history of a myocardial infarction or heart attack, angina or coronary heart disease, or stroke were categorized as having cardiovascular disease.

Respondents were asked, "If you thought someone was having a heart attack or stroke, what is the first thing you would do?" The response categories included 1) taking them to the hospital, 2) advising the person to call their doctor, 3) calling 9-1-1, 4) calling their spouse or a family member or 5) doing something else.

Data analyses were performed using SAS v9.13 (Cary, North Carolina) to calculate weighted estimates and 95% confidence intervals for the importance of calling 9-1-1 by age, sex, race, education, income and status of cardiovascular disease.

RESULTS

In 2009, 83% of Montana adults reported the first thing they would do if they witnessed someone having a heart attack or stroke is to call 9-1-1. Women and younger adults (< 45 years) were significantly more likely to report they would call 9-1-1 first if they witnessed someone having a heart attack or stroke compared to men and older

adults (65 years and older), respectively (Figure 1). A majority (79%) of older Montana adults (65 years and older) reported they would call 9-1-1 if they witnessed someone having a heart attack or stroke; however, a substantial percentage (11%) reported they would take the individual to the hospital (Data not shown). There was no significant difference in the percentage of respondents who would call 9-1-1 by education, income and cardiovascular disease status (Figure 2).

DISCUSSION

Over 80% of Montana adults reported that they would call 9-1-1 if they thought someone was having a heart attack or stroke. In 2005, 86% of BRFSS respondents from 14 states indicated they would call 9-1-1.⁶ Although the rates for Montana are slightly lower than the overall rate in other states, it is clear that many Montanans recognize the importance of seeking prompt emergency care for heart attack and stroke. However, there remains a significantly lower percentage of older adults (65 years and older) who are not choosing to call 9-1-1 as their first action. This indicates that additional targeted education is needed for older adults to emphasize the importance of calling 9-1-1. Using the EMS system allows EMTs to alert the hospital and potentially initiate life-saving cardiac treatment while en route. The Montana Cardiovascular Health Program has supported media campaigns to promote awareness of the signs for both heart attack and stroke, and additional media campaigns to encourage the use of 9-1-1 are planned (<http://cardiac.mt.gov> and <http://montanastroke.org>). However, individuals in very isolated areas in Montana face unique challenges in activating EMS and accessing emergency care promptly. These Montana findings, although encouraging, serve as a reminder to clinicians to specifically discuss the best way for individuals to seek emergency care for time sensitive cardiovascular conditions in their communities.

REFERENCES:

¹ Quantification of the benefit of earlier thrombolytic therapy: five-year results of the Grampian Region Early Anistreplase Trial (GREAT). *J Am Coll Cardiol* 1997; 30:1181-6.

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³ Moser DK, et al. AHA Scientific Statement: Reducing Delay in Seeking Treatment by Patients With Acute Coronary Syndrome and Stroke. *Circulation* 2006; 114:168-182.

⁴ Acker J, et al. A Policy Statement from the American Heart Association/American Stroke Association Expert Panel on Emergency Medical Services Systems and the Stroke Council: Implementation Strategies for Emergency Medical Services within Stroke Systems of Care. *Stroke* 2007; 38: 3097-3115.

⁵ Kushner FG, et al. AHA Scientific Statement. 2009 Focused Updates: ACC/AHA Guidelines for the Management of Patients With ST-Elevation Myocardial Infarction (Updating the 2004 Guideline and 2007 Focused Update) and ACC/AHA/SCAI Guidelines on Percutaneous Coronary Intervention (Updating the 2005 Guideline and 2007 Focused Update). *Circulation* 2009; 120:2271-2306.

⁶ Fang J, Keenan N, Dai S, Denny C. Disparities in Adult Awareness of Heart Attack Warning Signs and Symptoms – 14 States, 2005. *MMWR* 2008; 57:175-179.

SAVE THE DATE

WYOMING ASSOCIATION OF DIABETES EDUCATOR'S (WYADE) FALL UPDATE SEPTEMBER 30–OCTOBER 1, 2010

Ramkota Best Western - Casper, Wyoming

The WYADE's Fall update will be held on Thursday, September 30th and Friday, October 1st, 2010 in Casper, Wyoming at the Ramkota Best Western. For additional information, please contact Maureen Molinari at (307) 413-0165 or e-mail Maureen_molinari@hotmail.com.

MONTANA ANNUAL DIABETES PROFESSIONAL CONFERENCE OCTOBER 21-22, 2010

Holiday Inn Downtown At The Park - Missoula, Montana

The Montana Diabetes Project's annual professional conference will be held on Thursday, October 21st and Friday, October 22nd, 2010 in Missoula, Montana at the Holiday Inn Downtown at the Park. For additional information, contact Susan Day at (406) 444-6677 or e-mail sday@mt.gov.

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WHAT ARE THE MONTANA DIABETES PREVENTION AND CARDIOVASCULAR HEALTH PROGRAMS AND HOW CAN WE BE CONTACTED?

The Montana Diabetes Control and Cardiovascular Health Programs are funded through cooperative agreements with the Centers for Disease Control and Prevention and Health Promotion (1U58DP001977-01), the Division for Heart Disease and Stroke Prevention (5U50 DP000736-05) and through the Montana Department of Public Health and Human Services.

The mission of the Diabetes Control and Cardiovascular Health Programs is to reduce the burden of diabetes and cardiovascular disease among Montanans. Our web pages can be accessed at <http://www.diabetes.mt.gov> and <http://montanacardiovascular.state.mt.us>.

For further information please contact us at:

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